

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Previously Presented) A method for processing data communication passing through a node in a data network comprising:
provisioning a service on the node, including configuring a detection point for the service;
processing communication passing through the node, including monitoring the communication to identify matches to the configured detection point; and
on identifying a match to the configured detection point, notifying service logic for the service of the detection point.
2. (Previously Presented) The method of claim 1 wherein processing communication passing through the node includes processing data communication from a wireless network.
3. (Previously Presented) The method of claim 2 wherein processing data communication from a wireless network includes processing data communication from a second-generation (2G) wireless telephone network.

4. (Previously Presented) The method of claim 2 wherein processing data communication from a wireless network includes processing data communication from a third-generation (3G) wireless telephone network.

5. (Previously Presented) The method of claim 2 wherein processing data communication from a wireless network includes processing data communication from a GPRS enabled wireless network.

6. (Previously Presented) The method of claim 2 wherein processing data communication from a wireless network includes processing data communication from a wireless local area network (WLAN).

7. (Previously Presented) The method of claim 1 wherein processing communication passing through the node includes processing data communication from a fixed network

8. (Previously Presented) The method of claim 1 further comprising configuring, on the node, a plurality of operators of services.

9. (Previously Presented) The method of claim 8 wherein configuring the operators includes configuring a virtual operator.

10. (Previously Presented) The method of claim 8 wherein provisioning the service includes associating the service with one of the operators.

11. (Previously Presented) The method of claim 10 wherein the method further comprises providing data security between operators.

12. (Previously Presented) The method of claim 1 wherein provisioning the service includes receiving a specification for configuring the detection point.

13. (Previously Presented) The method of claim 1 wherein provisioning the service includes receiving configuration information for the service from a server external to the node.

14. (Previously Presented) The method of claim 1 wherein the data communication includes packet data communication.

15. (Previously Presented) The method of claim 14 wherein the packet data communication includes Internet Protocol (IP) data communication.

16. (Previously Presented) The method of claim 15 wherein configuring the detection point includes specifying characteristics at one or more protocol layers.

17. (Previously Presented) The method of claim 16 wherein specifying characteristics at one or more protocol layers includes specifying characteristics at a network layer.

18. (Previously Presented) The method of claim 16 wherein specifying characteristics at one or more protocol layers includes specifying characteristics at a transport layer.

19. (Previously Presented) The method of claim 18 wherein specifying characteristics at a transport layer includes specifying characteristics related to a Transport Control Protocol (TCP).

20. (Previously Presented) The method of claim 18 wherein specifying characteristics at a transport layer includes specifying characteristics related to a Universal Datagram Protocol (UDP).

21. (Previously Presented) The method of claim 16 wherein specifying characteristics at one or more protocol layers includes specifying characteristics at an application layer.

22. (Previously Presented) The method of claim 21 wherein specifying characteristics at an application layer includes specifying characteristics of a Hyper Text Transport Protocol (HTTP).

23. (Previously Presented) The method of claim 21 wherein specifying characteristics at an application layer includes specifying characteristics of a RADIUS application protocol.

24. (Previously Presented) The method of claim 21 wherein specifying characteristics at an application layer includes specifying characteristics of a Domain Name Service (DNS) protocol.

25. (Previously Presented) The method of claim 16 wherein specifying characteristics at one or more protocol layers includes specifying characteristics at a plurality of protocol layers.

26. (Previously Presented) The method of claim 16 wherein specifying characteristics at one or more protocol layers includes specifying ~~a regular~~ an expression that identifies fields of data packets at one or more protocol layers.

27. (Previously Presented) The method of claim 1 wherein the method further includes, on identifying a match to the detection point, processing the communication according to the service logic.

28. (Previously Presented) The method of claim 27 wherein the method further includes, on identifying a match to the detection point, suspending communication associated with the matched detection point.

29. (Previously Presented) The method of claim 27 wherein further processing the communication includes:

- receiving a specification for an event detection point from the service logic;
- configuring an event detection point; and
- monitoring the communication to identify matches to the configured event detection point.

30. (Previously Presented) The method of claim 27 wherein further processing the communication includes redirecting the communication.

31. (Previously Presented) The method of claim 27 wherein further processing the communication includes passing the communication through a communication tunnel to a destination associated with the service.

32. (Previously Presented) The method of claim 27 wherein further processing the communication includes filtering the communication.

33. (Previously Presented) The method of claim 32 wherein the filtering includes blocking data packets according to an address identified in the packets.

34. (Previously Presented) The method of claim 27 wherein further processing the communication includes applying a policy to the communication.

35. (Previously Presented) The method of claim 34 wherein applying a policy to the communication includes applying a data rate policy.

36. (Previously Presented) The method of claim 1 wherein provisioning the service includes communication with a network management system.

37. (Previously Presented) The method of claim 1 wherein provisioning the service includes:

identifying metering characteristics of communication for service interactions;
and

wherein processing communication passing through the node further includes detecting service interactions in the data communication each associated with the service and recording metering information for the detected service interactions.

38. (Previously Presented) The method of claim 37 wherein recording metering information for the detected service interactions includes recording an amount of data transferred in the service interaction.

39. (Previously Presented) The method of claim 38 wherein recording an amount of data transferred includes recording a number of packets.

40. (Previously Presented) The method of claim 38 wherein recording an amount of data transferred includes recording a number proportional to a number of bytes.

41. (Previously Presented) The method of claim 38 wherein recording an amount of data transferred includes recording an amount of data passed in one direction through the node.

42. (Previously Presented) The method of claim 37 wherein recording metering information for the detected service interactions includes recording a rate of data transfer during the service interaction.

43. (Previously Presented) The method of claim 37 wherein recording metering information includes recording metering information for an individual flow in a service interaction.

44. (Previously Presented) The method of claim 37 wherein recording metering information includes recording metering information for a group of flows in a service interaction.

45. (Previously Presented) The method of claim 37 wherein recording metering information includes recording metering information for an entire service interaction.

46. (Previously Presented) A method for processing data communication passing through a node in a data network comprising:

processing communication sessions in the data communication passing through the node, including monitoring data packets for the communication sessions to identify matches to a configured detection point;

on identifying a match to the configured detection point in one of the communication sessions, passing a request to external service logic identifying the detection point; and

further processing the communication session according to information received from the service logic in response to the passed request.

47. (Previously Presented) The method of claim 46 wherein the further processing includes suspending the communication session, and then passing data for the communication session according to the received information.

48. (Previously Presented) The method of claim 46 wherein the further processing includes redirecting the communication session according to the received information.

49. (Currently Amended) A method for monitoring a service provided over data communication passing through a node in a data network comprising:

- provisioning the service including identifying characteristics of communication for service interaction;
- detecting service interactions in the data communication, each service interaction associated with a particular user of the service; and
- providing information related to the detected service interactions.

50. (Previously Presented) The method of claim 49 wherein detecting service interactions includes matching the data communication to detection points.

51. (Previously Presented) The method of claim 50 wherein the detection points include characteristics at multiple protocol layers.

52. (Previously Presented) The method of claim 49 wherein providing the information includes exporting the information to an external system.

53. (Previously Presented) The method of claim 49 wherein the information related to the detected sessions relates to a group of subscribers.

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54. (Previously Presented) The method of claim 49 wherein the information related to the detected sessions relates to a particular service.

55. (Previously Presented) The method of claim 49 wherein the information related to the detected sessions relates to an operator.

56. (Previously Presented) The method of claim 49 wherein the information related to the detected sessions includes a detail record related to a session.

57. (Previously Presented) The method of claim 56 wherein the detail record related to the session includes a detail record related to only a portion of the session.

58. (Previously Presented) The method of claim 49 wherein the information is related to the detected sessions relates to a time interval of operation.

59. (Previously Presented) A method for processing packet data communication between mobile stations on a wireless telephone network and service providers on a fixed network comprising:

provisioning a service on a node coupling the wireless network and the fixed network, including configuring service logic for the service;

processing packet data communication passing between the wireless telephone network and the fixed network through the node, including monitoring the communication to identify communication sessions associated with the provisioned service;

matching detection points in the identified communication sessions; and
executing service logic in response to matching of the detection points.

60. (Previously Presented) The method of claim 59 wherein executing service logic include communicating with an external service platform, and processing the packet data communication includes processing the communication according to information received from the external service platform.

61. (Previously Presented) A communication node comprising:
means for provisioning a service on the node, including means for configuring a detection point for the service;
means for processing communication passing through the node, including means for monitoring the communication to identify matches to the configured detection point;
and
means for notifying service logic for the service of the detection point when a match to the configured detection point is identified.

62. (Currently Amended) A communication node comprising:
a service manager configured to accept provisioning information for services;
a database coupled to the service manager, including storage for storing the accepted provisioning information;
circuitry for passing packet data communication through the ~~device~~node and for detecting configurable events in the data communication; and

a service execution engine programmed to communicate with the service manager and to receive notifications of the detected events for the circuitry for passing data.

63. (Previously Presented) The communication node of claim 62 wherein the database further comprises storage for detail records, and wherein the service execution engine is further programmed to generate detail records in response to the received notifications.

64. (Previously Presented) The method of claim 1 in which the data communication includes an Internet Protocol (IP).

65. (Previously Presented) The method of claim 1 in which the data communication includes a Transmission Control Protocol (TCP).

66. (Previously Presented) The method of claim 1 in which the data communication includes a User Datagram Protocol (UDP).

67. (Previously Presented) The method of claim 1 in which the data communication includes a Hypertext Transfer Protocol (HTTP).

68. (Previously Presented) The method of claim 1 in which the data communication includes a Simple Mail Transfer Protocol (SMTP).

69. (Previously Presented) The method of claim 1 in which the data communication includes an Internet Message Access Protocol (IMAP).

70. (Previously Presented) The method of claim 1 in which the data communication includes a Post Office Protocol (POP).

71. (Previously Presented) The method of claim 1 in which the data communication includes a File Transfer Protocol (FTP).

72. (Previously Presented) The method of claim 1 in which the data communication includes a Real Time Streaming Protocol (RTSP).

73. (Previously Presented) The method of claim 1 in which the data communication includes a Real Time Transport Protocol (RTP).

74. (Previously Presented) The method of claim 1 in which the data communication includes a Session Initiation Protocol (SIP).

75. (Previously Presented) The method of claim 1 in which the data communication includes a H.323 Protocol.

76. (Previously Presented) The method of claim 1 in which the data communication includes a Media Gateway Control Protocol (MGCP).

77. (Previously Presented) The method of claim 1 in which the data communication includes a Diameter Base Protocol.